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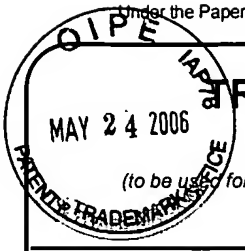

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/518,799
Filing Date	December 20, 2004
First Named Inventor	Massimo Giacomelli, et al.
Art Unit	3749
Examiner Name	Carl D. Price
Attorney Docket No.	C&P-139US

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/Declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
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Remarks:

SIGNATURE OF APPLICANT, ATTORNEY OR AGENT

Firm Name	RatnerPrestia		
Signature	Daniel N. Calder		
Printed Name	Daniel N. Calder		
Date	May 22, 2006	*Registration No.*	27,424

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Signature	Juli Lawrence		
Typed or Printed Name	Juli Lawrence	*Date*	May 22, 2006

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Massimo Giacomelli, et al.

Serial No.:	10/518,799	Group No.:	3749
Filed:	December 20, 2004	Examiner:	Carl D. Price
For:	CONTROL UNIT FOR CONTROLLING THE DELIVERY OF A COMBUSTIBLE GAS IN VALVE UNITS		

Filing Receipt Corrections
Office of Initial Patent Examination
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTED FILING RECEIPT

1. Attached is a copy of the official filing receipt received from the PTO in the above application for which issuance of a corrected filing receipt is respectfully requested. Also enclosed is a copy of the Preliminary Amendment filed with the initial filing of the application indicating the change of title therein.

2. There is an error with respect to the following data:

☒ Incorrectly entered
and/or
☐ omitted

Error in	*Correct data*
1. ☐ Applicant's name	1.
2. ☐ Applicant's address	2.
3. ☒ Title	3. CONTROL UNIT FOR CONTROLLING THE DELIVERY OF A COMBUSTIBLE GAS IN VALVE UNITS
4. ☐ Filing Date	4.
5. ☐ Serial Number	5.
6. ☐ Foreign/PCT Application Reference	6.
7. ☐ Other	7.

3. No fee is due.

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Respectfully submitted,

Daniel N. Calder

Daniel N. Calder, Reg. No. 27,424

CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Filing Receipt Corrections, Office of Initial Patent Examination, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: May 22, 2006

Juli Lawrence

Juli Lawrence

23206v1

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/518,799	12/20/2004	3749	900	C&P-139US	2	14	1

CONFIRMATION NO. 3630

23122
RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

FILING RECEIPT

OC000000016175535

Date Mailed: 06/03/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Massimo Giacomelli, Mirano (Ve), ITALY;
Nicola Trevisanato, Zelarino, ITALY;
Bruno Barbolini, Padova, ITALY;

Power of Attorney: The patent practitioners associated with Customer Number **23122**.

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/IT02/00409 06/21/2002

Foreign Applications

Projected Publication Date: 09/08/2005

Non-Publication Request: No

Early Publication Request: No

Title – Diff in Pattsy, Pls advise

Control unit for controlling the delivery of a combustible gas in valve units~~, particularly for water heating apparatuses, and valve unit including said unit~~

6/9/05

Preliminary Class

431

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No:
Applicant: Massimo Giacomelli et al.
Filed:
Title: CONTROL UNIT FOR CONTROLLING THE DELIVERY OF A COMBUSTIBLE GAS IN VALVE UNITS (as amended)
T.C./A.U.:
Examiner:
Confirmation No.:
Docket No.: C&P-139US

PRELIMINARY AMENDMENT

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Prior to examination, please amend the above-identified application as follows:

☒ **Amendments to the Title** begin on page 2 of this paper.

☒ **Amendments to the Specification** begin on page 3 of this paper.

☒ **Amendments to the Claims** are reflected in the listing of claims which begins on page 6 of this paper.

☐ **Amendments to the Drawings** begin on page of this paper and include an attached replacement sheet(s).

☒ **Amendments to the Abstract** are on page 8 of this paper. A clean version of the Abstract is on page 10 of this paper.

☐ **Remarks/Arguments** begin on page of this paper.

Amendments to the Title:

Please replace the title with the following:

~~Control unit for controlling the delivery of a combustible gas in valve units, particularly for water heating apparatuses, and valve unit including said unit.~~

CONTROL UNIT FOR CONTROLLING THE DELIVERY OF A COMBUSTIBLE GAS IN VALVE UNITS

Amendments to the Specification:

Please add the following new paragraph after the Title and before the first heading "Technical Field" on page 1.

This application is a U.S. National-Phase Application of International Application No. PCT/IT02/00409, filed June 21, 2002.

Please replace the paragraph, beginning at page 1, line 3, with the following rewritten paragraph:

Technical ~~field~~ Field

Please replace the paragraph, beginning at page 1, line 8, with the following rewritten paragraph:

Technological ~~background~~Background

Please replace the paragraph, beginning at page 2, line 9, with the following rewritten paragraph:

~~Description~~ Summary of the invention

Please replace the paragraph, beginning at page 2, line 10, with the following rewritten paragraph:

A principal ~~aim~~ objective of the present invention is that of providing a control unit for controlling the delivery of a combustible gas, capable of processing the values detected by sensor means for controlling the opening and/or closing of the valve means provided for the delivery of the gas to the burner of the water heater.

Please replace the paragraph, beginning at page 2, line 14, with the following rewritten paragraph:

This ~~aim~~ objective and others which will become clear from the following description, are fulfilled by a control unit for controlling the delivery of combustible gas in valve units having the characteristics defined in the claims which follow.

Please add the following new paragraph after the paragraph ending on line 16 of page 2.

The control unit controls the delivery of a combustible gas in a valve unit of the type having valve means for shutting off the gas which is subject to the operational control of a magnetic safety unit having a thermocouple. The control unit includes an electronic circuit assembly arranged for connection to sensor means adapted to detect the presence of inflammable vapours or other dangerous substances. The circuit assembly is supplied by electric power generating means. And the circuit assembly has an electronic type switch acting on the electric circuit for supplying the magnetic safety unit so as to interrupt the circuit and operate the valve means for closure in the presence of inflammable vapours detected by the sensor means.

Please replace the paragraph, beginning at page 2, line 17, with the following rewritten paragraph:

Brief ~~description~~ Description of the ~~drawings~~Drawings

Please replace the paragraph, beginning at page 2, line 22, with the following rewritten paragraph:

[—]Figure 1 is a block diagram relating to a control unit for a valve group according to the invention,

Please replace the paragraph, beginning at page 2, line 24, with the following rewritten paragraph:

[-]Figure 2 is a diagram corresponding to that of the previous figure in an alternative embodiment of the invention,

Please replace the paragraph, beginning at page 2, line 26, with the following rewritten paragraph:

[-]Figure 3 is a diagrammatic view of a control circuit of the valve unit of the previous figures, interfaced with the control unit according to the invention,

Please replace the paragraph, beginning at page 2, line 28, with the following rewritten paragraph:

[-]Figure 4 is a diagrammatic view corresponding to that of figure 3 in a further variant of the invention.

Please replace the paragraph, beginning at page 2, line 30, with the following rewritten paragraph:

Preferred Embodiment ~~method of implementation~~ of the ~~invention~~Invention

Please replace the paragraph, beginning at page 3, line 6, with the following rewritten paragraph:

The valve unit 2 comprises, in the pipe 3, a safety valve 4 operated by a manually set magnetic unit 5, of conventional structure ~~per se~~, adapted to allow the opening of the valve and the flow of gas in the pipe 3.

Please replace the paragraph, beginning at page 3, line 23, with the following rewritten paragraph:

The control unit comprises ~~according to the invention,~~ an electronic circuit assembly 12, produced for example in the form of an electronic card, which is interfaced with the valve unit 2 on the one hand, and with a sensor means 13 for sensing inflammable vapours on the other hand, as will become clearer from the continuation of the description.

Please replace the paragraph, beginning at page 3, line 28, with the following rewritten paragraph:

The sensor 13 is ~~conveniently~~ of the type comprising transducer means capable of transforming the signal indicating the presence of inflammable vapours in the surrounding atmosphere, into an electrical magnitude which is sent, as an input signal, to the electronic circuit assembly 12. Such a magnitude is for example an ohmic resistance R, but other magnitudes may be generated by different transducer means that may be employed.

Please replace the paragraph, beginning at page 4, line 8, with the following rewritten paragraph:

The circuit assembly 12 further comprises an electronic type switch 14, for example with MOSFET type transistor, which is operably connected to the electric circuit 11 of the thermocouple 10 for interrupting ~~said~~ the circuit and, consequently, operating the safety valve 4 so as to shut off the gas pipe 3 when the switch 14 is operated by the signal S generated by the electronic circuit assembly.

Please replace the paragraph, beginning at page 4, line 17, with the following rewritten paragraph:

The electronic circuit assembly 12, in the interface with the sensor 13, is electrically supplied by thermopile power generating means 12a, which are heated by the flame of the pilot burner 7. ~~Said~~ The thermopile means 12a serve to generate an electrical voltage of the order of at least a few tenths of a volt, necessary for supplying the electronic circuit 12.

Please replace the paragraph, beginning at page 4, line 22, with the following rewritten paragraph:

The control unit 1 also comprises battery electric power generating means 15, which are arranged to supply electric power principally to the circuit assembly 12, limited ~~ly~~ in the initial phase of lighting the flame at the pilot burner, in which phase the thermopile means 12a are not yet capable of providing sufficient power to the circuit assembly 12. The use of thermopile generating means advantageously makes it possible to increase the useful duration of the charge of the battery 15.

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A control unit for controlling the delivery of a combustible gas in a valve unit ~~(2)~~ of the type ~~comprising~~ having valve means ~~(4)~~ for shutting off the gas which ~~are~~ is subject to the operational control of a magnetic safety unit ~~(5)~~ with a thermocouple ~~(10)~~, the control unit comprising: an electronic circuit assembly ~~(12)~~ arranged for connection to sensor means ~~(13)~~ adapted to detect the presence of inflammable vapours or other dangerous substances, said circuit assembly ~~(12)~~ being supplied by electric power generating means, the circuit assembly ~~(12)~~ ~~comprising~~ having an electronic type switch ~~(14)~~ acting on the electric circuit ~~(11)~~ for supplying the magnetic safety unit ~~(5)~~ so as to interrupt said circuit and operate said valve means ~~(4)~~ for closure in the presence of inflammable vapours detected by said sensor means ~~(13)~~.

2. (Currently Amended) ~~A~~ The control unit according to claim 1, wherein said electric power generating means ~~comprise~~ having thermopile means ~~(12a)~~ supplied by ~~the~~ a flame of a pilot burner ~~(7)~~ associated with said valve unit ~~(2)~~.

3. (Currently Amended) ~~A~~ The control unit according to claim 1, wherein said electric power generating means ~~are~~ is of the type with battery ~~(15)~~, and the circuit assembly ~~(12)~~ is arranged to be electrically supplied exclusively by said generating means with battery ~~(15)~~.

4. (Currently Amended) ~~A~~ The control unit according to ~~one of~~ claims 1 ~~to 3~~, wherein said sensor means ~~(13) comprise~~ having transducer means adapted to transform the signal indicating the presence of inflammable vapours into an electrical magnitude sent to the circuit assembly, said circuit assembly ~~(12) comprising~~ having comparison means for comparing the value of such a magnitude with a preset threshold value and consequently sending an operating signal (S) for opening said electronic switch ~~(14)~~, whenever the value of said magnitude is above the threshold value set.

5. (Currently Amended) ~~A~~ The control unit according to claim 4, wherein said magnitude is an ohmic resistance (R).

6. (Currently Amended) ~~A~~ The control unit according to claim 2, wherein the resistive part of the electronic circuit assembly ~~(12)~~ is electrically supplied by said thermocouple ~~(10)~~.

7. (Currently Amended) ~~A~~ The control unit according to claim 1 ~~one or more of the preceding claims~~, wherein said electronic switch ~~(14)~~ is of ~~the~~ a low resistance type and is connected in series with the thermocouple ~~(10)~~ and the magnetic unit ~~(5)~~ in said electric circuit ~~(11) for supplying same~~.

8. (Currently Amended) ~~A~~ The control unit according to claim 1 ~~one or more of the preceding claims~~, wherein said electronic switch ~~(14)~~ is of the type with MOSFET transistor.

9. (Currently Amended) ~~A~~ The control unit according to claim 2 ~~one or more of the preceding claims~~, further comprising electric power generating means with battery ~~(15)~~ which ~~are~~ is arranged for electrically supplying the circuit assembly ~~(12)~~, limited~~ly~~ in a phase of

ignition of the pilot burner ~~(7)~~ and until the power produced by the thermopile generating means ~~(12a)~~ is sufficient to supply the electronic circuit assembly ~~(12)~~.

10. (Currently Amended) ~~A~~ The control unit according to claim 2 ~~one or more of the preceding claims~~, wherein said generating means with battery ~~(15) are~~ is electrically connected to an igniter device ~~(16)~~ for lighting the flame of the pilot burner ~~(7)~~ to provide sufficient power to said igniter device ~~(16)~~ in the flame ignition phase.

11. (Currently Amended) ~~A~~ The control unit according to claim 10, wherein said igniter device ~~(16)~~ is controlled by said circuit assembly ~~(12)~~ to be disabled in the presence of inflammable vapours detected by said sensor means ~~(13)~~.

12. (Currently Amended) ~~A~~ The control unit according to ~~one or more of claims 1 to 9~~ claim 2, wherein an igniter device ~~(16)~~ for lighting the flame at the pilot burner ~~(7)~~ is provided, and operated independently of the circuit assembly ~~(12)~~.

13. (Currently Amended) ~~A~~ The control unit according to claim 12, wherein said igniter device ~~(16)~~ is of the piezoelectric type.

14. (Currently Amended) A valve unit for the delivery of a combustible gas, particularly in water heating apparatuses, comprising a control unit ~~(1)~~ for controlling the delivery of the gas according to claim 1~~one or more of the preceding claims~~.

Amendment to the Abstract:

The Abstract has been amended. A revised Abstract is attached.

A control unit is ~~described~~ provided for controlling the delivery of a combustible gas in a valve unit ~~(2)~~ of the type ~~comprising~~ having a valve ~~means (4)~~ for shutting off the gas which ~~are~~ is subject to the operational control of a magnetic safety unit ~~(5)~~ with a thermocouple ~~(10)~~. The control unit ~~comprises~~ includes an electronic circuit assembly ~~(12)~~ arranged for connection to a sensor ~~means (13)~~ adapted to detect the presence of inflammable vapours or other dangerous substances~~,~~. ~~the~~ The circuit assembly ~~(12) being~~ is supplied by an electric power ~~generating~~ generator ~~means~~. The circuit assembly ~~(12) comprises~~ has an electronic type switch ~~(14)~~ acting on the electric circuit ~~(11)~~ for supplying the magnetic safety unit ~~(5)~~ so as to interrupt the circuit and operate the valve ~~means (4)~~ for closure in the presence of inflammable vapours detected by the sensor ~~means (13)~~.

Attachment

Remarks/Arguments:

Respectfully submitted,

Daniel N. Calder, Reg. No. 27,424
Attorney for Applicants

DNC/mc

Attachments: Abstract

Dated: December 20, 2004

☒ P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

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Date of Deposit: **December 20, 2004**

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Rebecca Hutchinson

L_I:\C&P\139US\PREAMEND.122004.DOC

ABSTRACT

A control unit is provided for controlling the delivery of a combustible gas in a valve unit of the type having a valve for shutting off the gas which is subject to the operational control of a magnetic safety unit with a thermocouple. The control unit includes an electronic circuit assembly arranged for connection to a sensor adapted to detect the presence of inflammable vapours or other dangerous substances. The circuit assembly is supplied by an electric power generator. The circuit assembly has an electronic type switch acting on the electric circuit for supplying the magnetic safety unit so as to interrupt the circuit and operate the valve for closure in the presence of inflammable vapours detected by the sensor.